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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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7590

06/02/2004

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EXAMINER

CHUNG, DAVID Y

ART UNIT

PAPER NUMBER

2871

DATE MAILED: 06/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

10/099,997

Applicant(s)

ANNO ET AL.

Examin r

David Y. Chung

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 March 2004.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☒ Claim(s) 4,6,8,10,14,16,18,20 and 21 is/are allowed.
6) ☒ Claim(s) 1-3,5,7,9,11-13,15,17 and 19 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, 5, 9, 11, 12, 15 and 19 rejected under 35 U.S.C. 102(e) as being anticipated by Kubo et al. (U.S. 6,295,109).

As to claim 1, Kubo et al. discloses a transfective liquid crystal display having both a reflective and transmissive pixel electrode in each pixel region. Note in figure 32C, the transmissive pixel electrode 58a formed in both the transmissive and reflective pixel regions. Note the gate-insulating layer 54 formed on the transmissive electrode 58a in a major portion of the reflective pixel region. Note the interlayer insulating film 60 having an opening formed at the transmissive pixel region. The reflective pixel electrode 61 is formed over the interlayer insulating film 60 in the reflective pixel regions and serves as a reflective film.

As to claim 2, the plan views of figures 21 and 24 show that the pixel region is formed as a region surrounded by a pair of gate lines 53 and a pair of data lines 59a. The reflective and transmissive pixel electrode receives a video signal from a corresponding data line via a thin film transistor. The thin film transistor operates in response to a scanning signal from a corresponding gate line.

As to claim 5, note in figure 32C, the transmissive pixel electrode 58a, drain electrode 59c, interlayer insulating film 60, and reflective pixel electrode 61. The drain electrode 59c connects to the transmissive pixel electrode 58a and is formed on a major portion of the reflective pixel region.

As to claim 9, Kubo et al. discloses that instead of forming an opening completely through the interlayer insulating film 60 in the transmissive pixel region, only removing a part of it so that it remains at a certain thickness. This is shown in figure 23D. Kubo et al. teaches that doing this prevents electrocorrosion when forming the reflective electrode 61 by patterning. See column 49, lines 56-64.

As to claims 11, 12, 15 and 19, the transflective device of Kubo et al. includes a backlight for providing light in the transmissive mode when the ambient light is dark. See column 13, lines 24-40.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7 and 17 rejected under 35 U.S.C. 103(a) as being unpatentable over Kubo et al. (U.S. 6,295,109) in further view of Nakagawa et al. (U.S. 6,525,788).

As to claim 7, Kubo et al. does not disclose superposing the reflective pixel electrode on the upper gate line in figures 21 and 24. However, Nakagawa et al. teaches overlapping the pixel electrode with the gate line in order to form a storage capacitance. This is shown in figure 1(a). It was well known that forming storage capacitance improved display quality by allowing the pixel electrode to retain the video signal for longer periods of time. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to overlap the pixel electrode with the gate line in order to for a storage capacitance.

As to claim 17, the transfective device of Kubo et al. includes a backlight for providing light in the transmissive mode when the ambient light is dark. See column 13, lines 24-40.

Response to Arguments

Applicant's arguments filed March 26, 2004 have been fully considered but they are not persuasive. It is believed that the term major does not have a precise meaning (such as >50% as applicant has argued) and that the transparent electrode 58a and the drain electrode 59c can reasonably be interpreted as covering a major portion of the reflective region. In fact, both the drain electrode 59c and transparent electrode 58a appear to be formed on at least 50% of the reflective region in figure 32C.

Allowable Subject Matter

Claims 4, 6, 8, 10, 14, 16, 18, 20 and 21 allowed.

The following is a statement of reasons for the indication of allowable subject matter: neither the prior art of Kubo et al. nor any secondary reference taught optimizing the thickness of the gate line, transmissive pixel electrode, and gate-insulating layer in order to control the difference between the total layer thickness of the transmissive pixel electrode and gate-insulating layer and the layer thickness of the gate line.

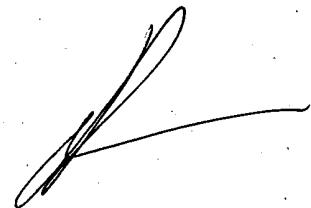
Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Art Unit: 2871

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Chung whose telephone number is (571) 272-2288. The examiner can normally be reached on Monday-Friday from 8:30 am to 5:00 pm.



KENNETH PARKER
PRIMARY EXAMINER